

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1, 3-7 and 20-33 are present in the application, and stand rejected under 35 U.S.C. § 103(a) over JP 2002-226926 (Yamauchi) in view of U.S. 2002/0015878 (Tsumura).

The claims of the present application are directed to a fuel cell catalyst material, a fuel cell and a membrane electrode assembly including anode and cathode catalyst layers. The claims recite catalyst particles having a composition substantially represented by AT_xN_u where A contains Pt or Pt and at least one noble metal. The platinum-containing nitride particles include a platinum nitride-based nano-material. The claims are supported, for example, by the non-limiting disclosure on page 15, line 14 – page 16, line 14.

Turning to the prior art rejection, according to the method taught by Yamauchi,¹ a solid solution of a metallic element X and a metallic element Y is prepared, and subsequently the solid solutions heated in an atmosphere of a vapor phase element Z at a potential sufficient to produce the compound of the metallic element X and the vapor phase element Z, and insufficient to produce the compound of the metallic element Y and the vapor phase element Z, so as to precipitate fine particles made of the compound of the metallic element X and the vapor phase element Z out of the matrix (see paragraph [0007]). A composite functional material containing the matrix and the fine particle dispersed in or on the matrix is obtained.

The compound of the metal Y and the vapor phase element Z is not produced. As is apparent from paragraphs [0009] and [0011] to [0014] of the Yamauchi translation, Pt is not used as metallic element X, but is used as metallic element Y. See, in particular, paragraph [0012] describing the case where Z is N. According to the method of Yamauchi, no platinum

¹ References are to the machine translation.

nitride is produced. There is also no platinum nitride-based nano-material mentioned in Yamauchi, and thus there is no platinum nitride-based nano-material formed in Yamauchi.

Each of the fuel cell catalyst material of claim 1, the membrane electrode of claim 6 and the fuel cell of claim 7 includes platinum-containing nitride particles, the platinum-containing nitride particles including a platinum nitride-based nano material. Yamauchi therefore clearly does not disclose or suggest the fuel cell catalyst material of claim 1, the membrane electrode assembly of claim 6 or the fuel cell of claim 7.

Tsumura is cited for teaching the diameter of the catalyst particles. Even if Yamauchi et al. could be combined with Tsumura et al. to obtain catalysts of the size taught by Tsumura et al., the combination would still fail to disclose or suggest claims 1, 6 or 7 since none suggest platinum-containing nitride particles including a platinum nitride-based nano-material.

It is respectfully submitted that the present application is in condition for allowance, and a favorable action to that effect is respectfully requested.

Respectfully submitted,

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